

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Applicant: Myers *et al.*Filing Date:
April 16, 2004

Group: 1614

U.S. PATENT DOCUMENTS

Examiner's Initials	U.S. Patent No.	Applicant	Issue Date	Class	Subclass
RR	*6,569,859	Corey	May 27, 2003	514	250
RR	*6,348,467	Corey	February 19, 2002	514	250
RR	*6,316,214	Rinchart <i>et al.</i>	November 13, 2001	435	25
RR	6,258,539	Hunkapiller <i>et al.</i>	July 10, 2001	435	6
RR	*6,124,293	Rinchart <i>et al.</i>	September 26, 2000	514	250
RR	*6,124,292	Corey	September 26, 2000	514	250
RR	5,939,273	Lussow <i>et al.</i>	August 17, 1999	435	7.1
RR	5,786,461	Buchardt <i>et al.</i>	July 28, 1998	536	18.7
RR	*5,834,228	Becker <i>et al.</i>	November 10, 1998	435	23
RR	5,773,571	Nielsen <i>et al.</i>	June 30, 1998	530	300
RR	*5,721,362	Corey <i>et al.</i>	February 24, 1998	540	466
RR	5,652,355	Metlev <i>et al.</i>	July 29, 1997	536	24.5
RR	5,646,260	Letsinger <i>et al.</i>	July 8, 1997	536	23.1
RR	5,580,969	Hoke <i>et al.</i>	December 3, 1996	536	24.5
RR	5,539,082	Nielsen <i>et al.</i>	July 23, 1996	530	300
RR	5,476,925	Letsinger <i>et al.</i>	December 19, 1995	536	23.1
RR	5,278,302	Caruthers <i>et al.</i>	January 11, 1994	536	24.5
RR	5,153,319	Caruthers <i>et al.</i>	October 6, 1992	536	27
RR	*5,023,184	Reichenbach <i>et al.</i>	June 11, 1991	435	252.1
RR	4,973,679	Caruthers <i>et al.</i>	November 27, 1990	536	27
RR	*4,837,149	Arai <i>et al.</i>	June 6, 1989	435	119
RR	4,668,777	Caruthers <i>et al.</i>	May 26, 1987	536	27
RR	4,500,707	Caruthers <i>et al.</i>	February 19, 1985	536	27
RR	4,458,066	Caruthers <i>et al.</i>	July 3, 1984	536	27
RR	4,419,732	Lambregts <i>et al.</i>	December 6, 1983	364	428
RR	*4,372,947	Arai <i>et al.</i>	February 8, 1983	424	121
RR	*4,248,863	Arai	February 3, 1981	424	121

R Raymond 2-17-05

U.S. PATENT APPLICATIONS

Examiner's Initials:	Publication Number:	Applicant:	Publication Date:	Group:	Art Unit:
RR	US2003/0083495	Corey	May 1, 2003		

FOREIGN PATENT DOCUMENTS

Examiner's Initials	Document No.	Country	Date	Translation	
				Yes	No
RR	*DE 28 39 668	Germany	3/1979		
RR	*EP 0 329 606	Europe	03 February 1989		
RR	*EP 0 233841	Europe	12 December 1987		
RR	*EP 0 173 649	Europe	26 August 1985		
RR	*JP 63-2991	Japan	07 January 1988		
RR	*JP 61-58593	Japan	25 March 1986		
RR	*JP 57-50896	Japan	25 March 1982		
RR	*JP 56-135486	Japan	22 October 1981		
RR	*WO 01/87895	International	22 November 2001		
RR	*WO 01/87894	International	22 November 2001		
RR	*WO 01/53299	International	26 July 2001		
RR	*WO 01/19824	International	22 March 2001		
RR	*WO 00/69862	International	23 November 2000		
RR	*WO 00/18233	International	06 April 2000		
RR	*WO 98/12198	International	26 March 1998		

OTHER DOCUMENTS

Examiner's Initials	Citation (Including Author, Title, Date, Pertinent Pages, Etc.)
RR	*Arai, et al., "Increased Production of Saframycin A and Isolation of Saframycin S", <i>The Journal of Antibiotics</i> , XXXIII(9): 951-960, 1980.
RR	*Arai, Directed Biosynthesis of New Saframycin Derivatives with Resting Cells of Streptomyces Lavendulae", <i>Antimicrobial Agents and Chemotherapy</i> , 28(1): 5-11, 1985.
RR	Arai, T., "Isoquinolinequinones from Actinomycetes and Sponges", <i>The Alkaloids</i> , XXI: 56-100, 1983.
RR	Arai, et al., "Biological Activity of Saframycins with Special Reference to Action Mechanism", pg. 89-95.
RR	Arai, et al., "The Structure of a Novel Antitumor Antibiotic, Saframycin A", <i>Experientia</i> , 36: 1025-1027, 1980.
RR	Arai, et al., "Some Chemotherapeutic Properties of Two New Antitumor Antibiotics, Saframycins A and C", <i>Gann</i> , 71: 790-796, 1980.
RR	Arai, et al., In <i>Advances in Cancer Chemotherapy</i> ; University Park Press, Baltimore, 235-251, 1978.
RR	Arai, et al., "New Antibiotics Saframycins A, B, C, D and E", <i>The Journal of Antibiotics</i> , 30: 1015-1018, 1977.
RR	*Bodian, et al., "Inhibition of the Fusion-Inducing Conformational Change of Influenza Hemagglutinin by Benzoquinones and Hydroquinones", <i>Biochemistry</i> , 32: 2967-2978, 1993.
RR	*Davidson, B., "Renieramycin G, A New Alkaloid from the Sponge Xestospongia Caycedoi", <i>Tetrahedron Letters</i> , 33(26): 3721-3724, 1992.

R. Raymond 2-17-05

RR	*Eisen, et al., "Binding of the Influenza A Virus to Cell-Surface Receptors: Structures of Five Hemagglutinin-Sialyloligosaccharide Complexes Determined by X-Ray Crystallography", <i>Virology</i> , 232:19-31, 1997.
RR	*Ekambareswara, et al., "DNA Sequence Selectivities in the Covalent Bonding of Antibiotic Saframycins Mx1, Mx3, A, and S Deduced from MPE-Fe(II) Footprinting and Exonuclease III Stop Assays", <i>Biochemistry</i> , 31: 12076-12082, 1992.
RR	*Ekambareswara, et al., "Mode of Action of Saframycin Antitumor Antibiotics: Sequence Selectivities in the Covalent Binding of Saframycins A and S to Deoxyribonucleic Acid", <i>Chem. Res. Toxicol.</i> 3:262-267, 1990.
RR	*Evans, et al., "Stereoselective Synthesis of (±)-Cyanocycline", <i>J. Am. Chem. Soc.</i> 108: 2478-2479, 1986.
RR	*Flanagan, et al., "Synthetic Studies on Quinocarcin: Total Synthesis of (±)-Quinocarcinamide Via Dipole Cycloaddition of an Azomethine Ylide Generated by NBS Oxidation", <i>J. Org. Chem.</i> 60: 6791-6797, 1995.
RR	*Fukuyama, et al., "Total Synthesis of (±)-Saframycin A", <i>J. Am. Chem. Soc.</i> 112: 3712-3713, 1990.
RR	*Fukuyama, et al., "Stereocontrolled Total Synthesis of (±)-Saframycin B", <i>J. Am. Chem. Soc.</i> , 104: 4957-4958, 1982.
RR	*Fukuyama, et al., A Stereocontrolled Total Synthesis of (±)-Renieramycin A", <i>Tetrahedron Letters</i> , 31(42): 5989-5992, 1990.
RR	*Ha, et al., X-Ray Structures of H5 Avian and H9 Swine Influenza Virus Hemagglutinins Bound to Avian and Human Receptor Analogs", <i>PNAS</i> , 98(20): 11181-11186, 2001.
RR	Hill, et al., "Computer Simulation of the Binding of Saframycin A to d(GATGCATC)", <i>J. Med. Chem.</i> 34: 1990-1998, 1991.
RR	*Hoffman, et al., "Structure-Based Identification of an Inducer of the Low-pH Conformational Change in the Influenza Virus Hemagglutinin: Irreversible Inhibition of Infectivity", <i>Journal of Virology</i> , 71(11): 8808-8820, 1997.
RR	*Ishiguro, et al., "Binding of Saframycin A, a Heterocyclic Quinone Anti-Tumor Antibiotic to DNA as Revealed by the Use of the Antibiotic Labeled with [¹⁴ C]Tyrosine or [¹⁴ C]Cyanide", <i>The Journal of Biological Chemistry</i> , 256(5): 2162-2167, 1981.
RR	*Ishiguro, et al., "Mode of Action of Saframycin A, A Novel Heterocyclic Quinone Antibiotic. Inhibition of RNA Synthesis in Vivo and In Vitro", <i>Biochemistry</i> , 17(13): 2545-2550, 1978.
RR	Jimeno, et al., "Progress in the Acquisition of New Marine-Derived Anticancer Compounds: Development of Ecteinascidin-743 (ET-743)", <i>Drugs Future</i> , 21: 1155-1165, 1996.
RR	*Kaneda, et al., "Antitumor Activity of New Semisynthetic Saframycin Derivatives", <i>Jpn. J. Cancer Res. (Gann)</i> , 77: 1043-1049, 1986.
RR	Kaneda, et al., "Biological Activities of Newly Prepared Saframycins", <i>The Journal of Antibiotics</i> , XL(11): 1640-1643, 1987.
RR	*Kishi, et al., "Structure-Activity Relationships of Saframycins", <i>The Journal of Antibiotics</i> , XXXVII(8): 847-852, 1984.

R. Raymond 2-17-05

RR	*Kubu, et al., "A Synthesis of the Derivatives of 1,2,3,5,10,10a-Hexahydrobenz[f]Indolizine-6,9-Dione Having Antifungal Activity as a Simple Model of Saframycin A", <i>Heterocycles</i> , 42(1): 195-211, 1996.
RR	*Kubo, et al., "Stereoselective Total Synthesis of (±)-Saframycin B", <i>J. Org. Chem.</i> 53: 4295-4310, 1988.
RR	Kubo, et al., "Synthesis of Saframycins. I. Total Synthesis of (±) - Saframycin B and its Congeners", <i>Chem. Pharm. Bull.</i> 35(5): 2158-2161, 1987.
RR	*Kurihara, et al., "Studies Directed Towards Total Synthesis of Saframycin: I. A Synthesis of Hexahydro-1,5-Imino-3-Benzazocin-7,10-Dione", <i>Tetrahedron Letters</i> , 23(35): 3639-3640, 1982.
RR	*Lown, et al., "Molecular Mechanisms of Binding and Single-Strand Scission of Deoxyribonucleic Acid by the Antitumor Antibiotics Saframycins A and C", <i>Biochemistry</i> , 21(3): 419-428, 1982.
RR	*Luo, et al., "Molecular Mechanism Underlying the Action of a Novel Fusion Inhibitor of Influenza A Virus", <i>Journal of Virology</i> , 71(5): 4062-4070, 1997.
RR	*Martinez, et al., "Enantioselective Synthesis of Saframycin A and Evaluation of Antitumor Activity Relative to Ecteinasidin/Saframycin Hybrids", <i>Organic Letters</i> , 1(1): 75-77, 1999.
RR	*Martinez, et al., "Phthalascidin, A Synthetic Antitumor Agent with Potency and Mode of Action Comparable to Ecteinasidin 743", <i>Proc. Natl. Acad. Sci. USA</i> , 96: 3496-3501, 1999.
RR	Martinez, et al., "A New, More Efficient, and Effective Process for Synthesis of a Key Pentacyclic Intermediate for Production of Ecteinasidin and Phthalascidin Antitumor Agents", <i>Organic Letters</i> , 2(7): 993-996, 2000.
RR	*Matrosovich, et al., "The Surface Glycoproteins of H5 Influenza Viruses Isolated from Humans, Chickens, and Wild Aquatic Birds Have Distinguishable Properties", <i>Journal of Virology</i> , 73(2): 1146-1155, 1999.
RR	*Mikami, et al., "Biosynthetic Studies on Saframycin A, A Quinone Antitumor Antibiotic Produced by <i>Streptomyces Lavendulae</i> ", <i>The Journal of Biological Chemistry</i> , 260(1): 344-348, 1985.
RR	Mikami, et al., "Blue Pigmentation of Mycelia and the Synthesis of Saframycins by <i>Streptomyces Lavendulae</i> ", <i>Sixth Int. Symp. on Actinomycete Biology</i> , 297-299, 1985.
RR	*Myers, et al., "A Concise, Stereocontrolled Synthesis of (-) - Saframycin A by the Directed Condensation of α-Amino Aldehyde Precursors", <i>Journal of the American Chemical Society</i> , 121(46): 10828-10829, 1999.
RR	*Myers, et al., "Synthesis and Evaluation of Bishydroquinone Derivatives of (-) - Saframycin A: Identification of a Versatile Molecular Template Imparting Potent Antiproliferative Activity", <i>J. Am. Chem. Soc.</i> 123:5114-5115, 2001.
RR	*Myers, et al., "Synthesis of Highly Epimerizable N-Protected α-Amino Aldehydes of High Enantiomeric Excess", <i>Tetrahedron Letters</i> , 41: 1359-1362, 2000.
RR	*Myers, et al., "Greatly Simplified Procedures for the Synthesis of α-Amino Acids by the Direct Alkylation of Pseudoephedrine Glycinamide Hydrate", <i>J. Org. Chem.</i> 64: 3322-3327, 1999.
RR	*Myers, et al., "One-Step Construction of the Pentacyclic Skeleton of Saframycin A from a "Trimer" of a α-Amino Aldehydes", <i>Organic Letters</i> , 2(19): 3019-3022, 2000.

R Raymond 2-17-05

RR	*Myers, et al., "Preparation of Chiral, C-Protected α -Amino Aldehydes of High Optical Purity and Their Use as Condensation Components in a Linear Synthesis Strategy", <i>J. Am. Chem. Soc.</i> 121:8401-8402, 1999.
RR	*Myers, et al., "Synthesis of C-Protected α -Amino Aldehydes of High Enantiomeric Excess from Highly Epimerizable N-Protected α -Amino Aldehydes", <i>Organic Letters</i> , 2(21): 3337-3340, 2000.
RR	*Myers, et al., "Asymmetric Synthesis of Chiral Organofluorine Compounds: Use of Nonracemic Fluoroiodoacetic Acid as a Practical Electrophile and Its Application to the Synthesis of Monofluoro Hydroxyethylene Dipeptide Isosteres within a Novel Series of HIV Protease Inhibitors", <i>Journal of the American Chemical Society</i> , 123(30): 7207-7219, 2001.
RR	*Nobusawa, et al., "Comparison of Complete Amino Acid Sequences and Receptor-Binding Properties Among 13 Serotypes of Hemagglutinins of Influenza A Viruses", <i>Virology</i> , 182: 475-485, 1991.
RR	*Parker, et al., "Approaches to the Isoquinoline Quinone Antibiotics. 1. Additions of an Amino Acid Derivative to Quinone Monoacetal", <i>Tetrahedron Letters</i> , 25(33): 3543-3546, 1984.
RR	*Parker, et al., "Isoquinoline Quinones. Preparation of Aframycin Intermediates and a Total Synthesis of Mimosamycin", <i>J. Org. Chem.</i> 53:2847-2850, 1988.
RR	Plowright, "Synthesis and Evaluation of Bishydroquinone Derivatives of (-) - Saframycin A: Identification of a Versatile Molecular Template Imparting Potent Antiproliferative Activity" <i>J. Am. Chem. Soc.</i> 123: 5114-5115, 2001.
RR	*Podhorez, David., "Stepwise Approach to the 2,3-Dihydroimidazo[1,2-a]Pyridine and 5-Oxo-1,2,3,5-Tetrahydroimidazo[1,2-a] Pyridine Ring Systems", <i>J. Heterocyclic Chem.</i> 28: 971, 1991.
RR	*Pospiech, et al., "Two Multifunctional Peptide Synthetases and an O-Methyltransferase are Involved in the Biosynthesis of the DNA-Binding Antibiotic and Antitumour Agent Saframycin Mx1 from <i>Myxococcus Xanthus</i> ", <i>Microbiology</i> , 142: 741-746, 1996.
RR	*Pospiech, et al., "A New <i>Myxococcus Xanthus</i> Gene Cluster for the Biosynthesis of the Antibiotic Saframycin Mx1 Encoding a Peptide Synthetase", <i>Microbiology</i> , 141:1793-1803, 1995.
RR	Rao, et al., "Mode of Action of Saframycin Antitumor Antibiotics: Sequence Selectivities in the Covalent Binding of Saframycins A and S to Deoxyribonucleic Acid" <i>Chem. Res. Toxicol.</i> 3: 262-267, 1990.
RR	Rao, et al., "DNA Sequence Selectivities in the Covalent Bonding of Antibiotic Saframycins Mx1, Mx3, A, and S Deduced from MPE-Fe(II) Footprinting and Exonuclease III Stop Assays", <i>Biochemistry</i> , 31: 12076-12082, 1992.
RR	Reiners, W., "Saframycins, Renieramycins, and Safracins", <i>The Chemistry of Ant. Antibiotics</i> , 2: 93-119, 1988.
RR	Rinehart, et al., "Bioactive Compounds From Aquatic and Terrestrial Sources" <i>Journal of Natural Products</i> , 53: 771-792, 1990.
RR	*Rosenthal, et al., "Structure of the Haemagglutinin-Esterase-Fusion Glycoprotein of Influenza C Virus", <i>Nature</i> , 396:92-96, 1998.
RR	*Saito, et al., "Synthesis of Saframycins VIII. 1. Synthesis of the ABC Ring of Safracins", <i>Chem. Pharm. Bull.</i> 40(10): 2620-2626, 1992.
RR	*Saito, et al., "Synthesis of Saframycins. 3. Preparation of a Key Tricyclic Lactam Intermediate to Saframycin A", <i>J. Org. Chem.</i> , 54: 5391-5395, 1989.

R. Raymond 2-17-05

17/26	RR	*Saito, et al., "Synthesis of Saframycins. VII. The Synthesis of Novel Renieramycin Congeners", <i>Heterocycles</i> , 32(6):1203-1214, 1991
# 6/26	RR	*Saito, et al., "Synthesis of Saframycins. XII. 1 Total Synthesis of (-)-N-Acetylsaframycin Mx 2 and Its epi-(+)-Enantiomer", <i>Tetrahedron</i> , 51(30): 8231-8246, 1995.
	RR	*Saito, et al., "Synthesis of Saframycins. X. 1) Transformation of (-) Saframycin A to (-) Saframycin Mx Type Compound with the Structure Proposed for Saframycin E", <i>Chem. Pharm. Bull.</i> 43(5): 777-782, 1995.
	RR	*Saito, et al., "Synthesis of Saframycins. V. Selenium Oxide Oxidation of Hexahydro-1,5-Imino-3-Benzazocin-7, 10-Dione; A Useful Method for Constructing Saframycins C and D From Saframycin B", <i>Tetrahedron</i> , 46(23): 7711-7728, 1990.
	RR	Saito, et al., "Synthesis of Saframycins. XI. Synthetic Studies toward a Total Synthesis of Safracin A", <i>Tetrahedron</i> , 51(30): 8213-8230, 1995.
	RR	Saito, et al., "Synthesis of Saframycins. VI. The Useful Transformation of (-)-Saframycin A To (-)-Saframycin Mx Type Compound)", <i>Chem. Pharm. Bull.</i> 39(5): 1343-1345, 1991.
	RR	Sakai, et al., "Additional Antitumor Ecteinasidins from a Caribbean Tunicate: Crystal Structures and Activities <i>in vivo</i> " <i>Proc. Natl. Acad. Sci. USA</i> , 89: 11456-11460, 1992.
	RR	*Sauter, et al., "Binding of Influenza Virus Hemagglutinin to Analogs of Its Cell-Surface Receptor, Sialic Acid: Analysis by Proton Nuclear Magnetic Resonance Spectroscopy and X-Ray Crystallography", <i>Biochemistry</i> , 31: 9609-9621, 1992.
	RR	*Staschke, et al., "Inhibition of Influenza Virus Hemagglutinin-Mediated Membrane Fusion by a Compound Related to Podocarpic Acid" <i>Virology</i> , 248:264-274, 1998.
	RR	*Shawe, et al., "Saframycin Synthetic Studies", <i>Tetrahedron</i> , 47(30): 5643-5666, 1991.
	RR	Taamma, et al., "Phase I and Pharmacokinetic Study of Ecteinasidin-743, A New Marine Compound, Administered as a 24-Hour Continuous Infusion in Patients with Solid Tumors", <i>Journal of Clinical Oncology</i> , 19(5): 1256-1265, 2001.
	RR	*Webster, et al., "Evolution and Ecology of Influenza A Viruses", <i>Microbiological Reviews</i> , 56(1): 152-179, 1992.
	RR	*Weis, et al., "Structure of the Influenza Virus Haemagglutinin Complexed with its Receptor, Sialic Acid", <i>Nature</i> , 333(2): 426-431, 1988.
	RR	*Winqvist, et al., "Neuraminidase Inhibitors for Treatment of Influenza A and B Infections", <i>MMWR Morbidity and Mortality Weekly Report/Recommendations and Reports</i> , 48(RR14): 1-11, 1999.
	RR	Yazawa, et al., "Isolation and Structural Elucidation of New Saframycins Y3, Yd-1, Yd-2, Ad-1, Y2b and Y2b-d", <i>The Journal of Antibiotics</i> , XXXIX(12): 1639-1650, 1986.
17/24	RR	*Zhou, et al., "A Novel Face Specific Mannich Closure Providing Access to the Saframycin-Ecteinasidin Series of Piperazine Based Alkaloids", <i>Tetrahedron Letters</i> , 41:2043-2046, 2000.
19/26	RR	*Zhou, et al., "Synthetic Explorations in the Saframycin-Ecteinasidin Series: Construction of Major Chiral Subunits Through Catalytic Asymmetric Induction", <i>Tetrahedron Letters</i> , 41:2039-2042, 2000.
	RR	International Search Report issued for corresponding PCT application PCT/US01/47399, 2001.
EXAMINER <i>RR</i>		DATE CONSIDERED 2-17-05
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		

3711991